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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------|------------------|
| 10/699,699  | 11/04/2003  | Rogerio Jun Mizuno   | P24117               | 5852             |
| 7055  | 7590        | 09/01/2005           | EXAMINER             |                  |
| GREENBLUM & BERNSTEIN, P.L.C.<br>1950 ROLAND CLARKE PLACE<br>RESTON, VA 20191 |             |                      | SMITH, PHILIP ROBERT |                  |
|   |             |                      | ART UNIT             | PAPER NUMBER     |
|   |             |                      | 3739                 |                  |
| DATE MAILED: 09/01/2005   |             |                      |                      |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/699,699             | MIZUNO, ROGERIO JUN |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Philip R. Smith        | 3739                |  |

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 09 August 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-15 is/are pending in the application.  
 4a) Of the above claim(s) 7-10 and 15 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2,4,11,12 and 14 is/are rejected.  
 7) Claim(s) 3,5,6 and 13 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date two filed 2/4/2004.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

**Restrictions**

[01] Claims 7-10 & 15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected groups, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8/9/2005.

[02] Applicant traverses the restriction requirement, contending that "there would not be a serious burden on the Examiner to examine all of the claims currently pending in the present application."

[03] Specifically, with regard to groups II and III, Applicant contends that "since independent claim 15 includes all the features of independent claim 7, separate searches would not be required for claims of groups II and III." This is a persuasive argument, and the restriction requirement between groups II and III is hereby withdrawn. Claims 7-10 & 15 will be known as group II.

[04] The restriction requirement between groups I and II is maintained.

[05] A telephone call was made to Mr. Bruce Bernstein, who maintained the election of group I, claims 1-6 & 11-14.

**Specification**

[06] The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. A "transparent substrate... inserted in an optical path" to which "at least one scanning mirror is

mounted" is fundamental to the claimed invention.

[07] Cross-references to related applications, such as those in [0106] of the specification filed 11/4/2003, are typically presented immediately following the title. See 37 CFR 1.78 and MPEP § 201.11.

### **Claim Rejections - 35 USC § 102**

[08] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[09] Claims 1-2, 4, 11-12 & 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoeg, et al. (6,371,909), patented 16 April 2002.

[10] Hoeg discloses an endoscope device ("endoscope 12," 3/40), comprising:

[10a] a light source ("illumination source 16," 3/42-43) that emits a light beam for illuminating an object to be observed;

[10b] a scanning type confocal probe which includes at least one scanning mirror ("first reflector 30 and a second reflector 32," 4/15) and a transparent substrate ("spacer 92 that may be employed to maintain the spacing between the first reflector 30 and second reflector 32," 7/8-10) on which said at least one scanning mirror is mounted, said transparent substrate being inserted in an optical path of said confocal probe such that a light beam passing along the optical path is deflected by said at least one

scanning mirror; and

[10c] an image reproducing system ("monitor 14 for viewing images received from the endoscope 12," 3/35-36) that reproduces an image of the object using light reflected by the object and passed through said confocal probe.

[11] Hoeg further discloses that the at least one scanning mirror includes:

[11a] a first scanning mirror ("first reflector 30") that deflects the light beam in a first predetermined direction ("downward," as pictured in Fig. 7 and approximated by the axis indicated "48,"); and

[11b] a second scanning mirror ("second reflector 32") that deflects the light beam in a second predetermined direction (indicated "46" in Fig. 7) which is perpendicular to the first predetermined direction, said first scanning mirror and said second scanning mirror being mounted on the same transparent substrate ("spacer 92 thus serves to assist in securing the reflectors in their desired positions," 7/11-13).

[12] Hoeg further discloses an objective lens ("negative objective lens 90," 7/7), wherein said objective lens and said transparent substrate are made of the same optical material. Given that the "spacer 92" and "negative objective lens 90" are inherently transparent, they are judged to be of the same "optical material."

#### **Allowable Subject Matter**

[13] Claims 3, 5-6 & 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter.

- [14] Uchiyama (2004/0181148) discloses several embodiments of a scanning confocal probe. Tokuda (2003/0233028) discloses a scanning probe in which a fixed mirror is mounted to a transparent substrate. Boppart (6,485,413) discloses several embodiments of a scanning confocal probe.
- [15] None of the above concern themselves with the 'nuts and bolts' construction of a scanning confocal probe. Therefore, among the self-described 'scanning confocal probes' to be found in the prior art, no "transparent substrate" could be found which lies in the optical path of the probe. In fact, the prior art gave little attention at all to the mounting of the structures which composed the scanning probes, often depicting them as 'free-floating' structures, the alignment of which is presumably left to the discretion of the skilled artisan. The broadness of the terminology used in the claims permitted a search of the prior art outside of the self-described 'scanning confocal probes.'
- [16] A 'mirror,' for instance, may accurately be defined as encompassing any reflective surface. The rejections made above were made in accordance with this definition, as are the reasons for allowance below:
- [17] With regard to claims 3 & 13: The 'scanning mirrors' disclosed by Hoeg, et al are each capable of deflecting a light beam in a direction perpendicular to the incident direction; they are not capable of scanning "in a first predetermined direction and

in a second predetermined direction which is perpendicular to the first perpendicular directions," as stipulated in claims 3 & 13.

[18] With regard to claims 5-6: As noted above, the broadness of the terminology permits a search of the prior art outside of self-described 'scanning confocal probes.' Claim 5 incorporates structure which more precisely indicates such a probe - specifically, a "pin hole that allows light reflected by in-vivo tissues on an object side focal plane of said objective lens to pass through and shields light reflected by the tissues on portions other than the object side focal plane of said objective lens."

### Conclusion

[19] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It has been outlined above under the 'Allowable Subject Matter' heading.

[20] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip R. Smith whose telephone number is (571) 272 6087 and whose email address is philip.smith@uspto.gov. The examiner can normally be reached between 9:00am and 5:00pm.

[21] If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272 4764.

[22] Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



[23] prs

A handwritten signature in black ink, appearing to read "John P. Leubecker".

John P. Leubecker  
Primary Examiner